of their free will assistance and aspiration, and coöperating closely with the official organization; (4) the medical practitioner, an integral and active force upon whom Parliament has imposed initial statutory duties, private and public; and (5) an educated people able and willing to practise the way of health.

Widespread improvement in nutrition during the last twenty years is recorded as due to social betterment and taste, to the commercial availability of food supplies, to increased consumption of food, and to effective public assistance for the necessitous. The provision and results of a more complete public service for relief are said to have been vindicated by the absence of widespread or serious malnutrition. Public health has likewise been a contributing factor in the larger life and opportunity which the people enjoy.

In estimating the work of the health insurance system in England, recognition is given to certain limitations. It is a practitioner service only, still without a consultative and specialist element or desirable facilities and personnel for observation, while provision for coöperation between insurance committees and sanitary authorities is reported as ineffective. But evidence indicates that " panel treatment " is improving and that the insurance system is becoming more effective and universal. " Its value will increase as it is more and more closely coördinated, if not unified, with the other public health services of the nation."

TYPHOID VACCINATION

A RENEWED interest in typhoid vaccine and typhoid vaccination will be the result of the recent publication, by Colonel J. F. Siler and his associates of the Medical Corps, U. S. Army, of their investigations carried on over several years. The work will stand as an example of the way a study should be planned and executed, regardless of the importance of the results. The investigations have resulted in marked changes in the Army typhoid vaccine. The time-honored Rawlings strain used in English speaking countries since typhoid vaccination came into vogue about 30 years ago has been replaced by a new strain, No. 58, which is regarded as of better antigenic activity. The changes in the technic of preparation and of testing need not be discussed here.

The old concept that strains of organisms of the same species are practically identical has been much revised in recent years, and the composition of the antigen is of great, perhaps of determining, importance.

It has been proved that virulence of a strain and immunizing ability run parallel to a considerable extent. Compared to the one in use previously, No. 58 is a very virulent strain. Very important is the observation that often, when immunity wanes with the passing of time, the intracutaneous administration of a small dose of the vaccine will restore protective antibodies to a high level. This of course greatly simplifies re-immunization. While the new vaccine doubtless is an improvement over the old one it is to be pointed out that the old vaccine had behind it a creditable record of usefulness covering many years as applied in military and civil life. The evidence as to the superiority of the new vaccine, though very suggestive, is practically all experimental, and it awaits an extensive field trial before a final appraisal as to the prophylactic value is to be made. Colonel Siler appreciates this, and in his summary remarks: " Decision as to the superiority in protective properties of vaccines prepared with virulent strains over those formerly used (avirulent strains) will be contingent on the results obtained

in the prevention of typhoid fever in large groups of immunized individuals. It should be possible to obtain the answer to this question within the next two or three years through observation of the occurrence of typhoid fever in the Civilian Conservation Corps."

Experience has shown that the typhoid vaccines hitherto in use have been highly successful in military practice, but under conditions of civilian application there seem to have been many examples of failure. Ordinarily it is very difficult to appraise the value of any new biologic prophylactic agent under conditions of use among a civilian population.

Probably the medical profession has expected too much of typhoid vaccination. There are instances where physicians have excluded a diagnosis of typhoid fever on the ground that the patient has been vaccinated within a year or two. This is not justified and we doubt that a history of vaccination should be given any great weight when confronted by a diagnostic problem in this field.

Two primary considerations confront the health officer in reaching a decision as to the application of any public health procedure, and this applies especially to biologic prophylactic measures. First must be considered the absolute protective value—smallpox vaccination would be rated as almost, if not quite, 100 per cent effective; influenza vaccination as of no value. The other protective inoculations stand somewhere between these extremes; typhoid vaccination in a civil population possibly stands not above the middle in any scheme of rating. The second consideration has to do with the question of whether the time, effort, and money expended on the prophylactic measure are likely to give a return commensurate with the outlay.

Applied to typhoid vaccine, it is plain that where the incidence of the disease is as low as it is in most of our cities we would not expect to undertake a program of vaccination. Bridgeport, Conn., Utica, N. Y., Fort Wayne and South Bend, Ind., and Minneapolis, Minn., had no typhoid deaths among residents in 1936, 1937, and 1938; obviously, in those places, typhoid vaccination is not to be advised. Whether to apply vaccination in a general community with a death rate even as high as that of El Paso, Tex., in 1938 (5.9 per 100,000) is a problem each health officer must decide for himself. If the prevalence of the disease is high, or there is a threat of serious exposure, as among military personnel, typhoid vaccination may be expected to give protection that will justify its adoption.

REFERENCES

1. *J.A.M.A.*, 112. 19:1941 (May 13), 1939.
2. *Mil. Surgeon*, 85, 1:23 (July), 1939.

THE SURGEON GENERAL'S LIBRARY

FOR years there has been agitation over a suitable and fireproof building to house what is generally known as the Surgeon General's Library. We have called attention to this,[1] giving in full also the resolutions passed by the Medical Library Association,[2] urging sufficient funds to sustain this great work.

It is heartening to note that President Roosevelt has recommended the acquisition of a site for a new Army Medical Library and Museum building in Washington in his budget for 1941, which was submitted to Congress on January 4 of this year. In this budget $600,000 is recommended for the purchase of a site and preliminary expenses in connection with the building. The site of